

Public Document

No. 60

SEVENTEENTH ANNUAL REPORT

OF THE

DAIRY BUREAU

OF THE

MASSACHUSETTS BOARD OF AGRICULTURE,

REQUIRED UNDER

CHAPTER 89, SECTION 12, REVISED LAWS.

JANUARY 15, 1908.



BOSTON:

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,

18 POST OFFICE SQUARE.

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DAIRY BUREAU—1907.

CARLTON D. RICHARDSON, WEST BROOKFIELD, *Chairman.*

JOHN M. DANFORTH, LYNNFIELD CENTRE.

HENRY E. PAIGE, AMHERST.

Secretary.

J. LEWIS ELLSWORTH, *Executive Officer and Secretary of the
State Board of Agriculture.*

General Agent.

P. M. HARWOOD.

ADDRESS, ROOM 136, STATE HOUSE, BOSTON.

Commonwealth of Massachusetts.

REPORT.

Each year brings with it changed conditions and results in new and varying work. We have found less violations of the renovated butter law and an increase in violations of the oleomargarine laws. This is accounted for by the fact that fewer dealers are now handling the former, while the number handling the latter has increased. It is believed that the amount of oleomargarine sold in the State has somewhat increased, although the Boston receipts show a falling off of nearly 2,000 packages. As the oleomargarine now on the market is not prohibited by State law, as was the case with that formerly sold, the various laws governing registration of dealers, the marking of vehicles, the labelling of packages, placing of signs, and, above all, the selling of oleomargarine as and for butter, are the only means of protecting the public against fraud, and the butter makers and dealers against unfair competition. We have presented in court, during the year, 101 cases of violation of the various oleomargarine laws, 79 cases of violation of the renovated butter law and 18 cases for the adulteration of milk. Two of the cases were for milk containing formaldehyde; the balance were undoubtedly watered. Most of this milk work has been done in conjunction with the local milk inspectors.

We have during the year come into closer touch with these officers than ever before, and have gathered from them information which has aided us materially in our work, for which we record our indebtedness. We notice that in places where the campaign for pure milk has waged longest and much high-priced milk is sold the rate of consumption of milk per capita is high. This is encouraging, and shows

what can be accomplished by furnishing consumers with a good article. It is the assurance that milk is clean and right that counts in obtaining the confidence of the public, thus increasing consumption, especially after the consumer has become accustomed to paying the higher price. It is along these lines that those in authority are working, and we trust that the assurance of improved quality and condition of milk now being produced in this State will increase the consumption still further in the near future, and that the price to the farmers will soon be such as will fairly recompense them for its production.

The milk standard question was agitated before the Legislature last winter, and several bills were offered by interested parties, but none prevailed. We are of the opinion that the day will some time come when milk will be sold on its merits, and that fat content will be the measure of its commercial value. We also believe that some way should be provided to permit the legal sale of any and all milk produced by healthy, properly fed and well-cared-for cows. We do not believe that the present milk standard law is right, in so far as it calls for too wide a variation between summer and winter milk. It would perhaps be better not to have any variation at all. We are decidedly of the opinion that milk from other States should be subject to all the requirements as to its production which prevail in this State.

Elsewhere will be found a list of the prosecutions and some interesting analyses of market milk as it is being produced to-day, and also figures illustrative of adulterated and unadulterated milk.

We are glad to note an increase in the price of milk, indicative of better conditions for the dairyman. What is needed to-day perhaps more than ever before is confidence and co-operation between all parties concerned in the milk business. If all will pull together, more milk will be consumed, a better price paid and the producers properly remunerated. Care must be taken, however, that no legislation is allowed that will make the producer worse off than he is at present.

The personnel of the Bureau and its staff has remained unchanged. J. M. Danforth was reappointed by Governor Guild, C. D. Richardson has continued as chairman, H. E. Paige as a member, J. Lewis Ellsworth secretary, P. M. Harwood general agent, A. W. Lombard agent, B. F. Davenport and H. C. Emerson chemists, and four persons have been temporarily employed as agents during some part of the year.

The summary of the year's work is as follows : —

Total number of inspections,	15,779
Number of inspections where no sample was taken,	4,538
Number of samples of butter and oleomargarine, nearly all purchased,	1,182
Number of samples of milk and cream, mostly purchased,	192
Cases in court,	202
Meetings addressed by chairman of the Bureau,	17
Meetings addressed by the general agent,	27

Cases prosecuted during the eleven months ending Nov. 30, 1907, by months and courts, with law violated, and results, are as follows : —

Court.	Month.	Number.	Law violated.	Convicted.	Discharged.
Worcester, .	January, .	12	Oleomargarine, .	12	—
Pittsfield, .	January, .	4	Renovated butter, .	4	—
North Adams, .	January, .	11	9 oleomargarine, 2 renovated butter.	11	—
Boston, . .	January, .	5	Renovated butter, .	5	—
Lowell, . .	February, .	18	4 renovated butter, 14 oleomargarine.	18	—
Boston, . .	February, .	4	Renovated butter, .	4	—
Lawrence, .	February, .	4	Renovated butter, .	4	—
Chicopee, .	February, .	4	Oleomargarine, .	4	—
Taunton, .	March, .	8	2 renovated butter, 6 oleomargarine.	8	—
New Bedford, .	March, .	16	Renovated butter, .	15	1

¹ There were 133 extra samples taken during inspections, therefore this number is 133 less than the sum of the next three items.

Court.	Month.	Num-ber.	Law violated.	Con- victed.	Dis- charged.
Worcester, .	March, .	3	Milk,	3	—
Boston, . . .	March, .	4	Renovated butter, .	4	—
Springfield, .	March, .	3	Renovated butter, .	3	—
Northampton, .	March, .	2	Renovated butter, .	2	—
Holyoke, . .	March, .	8	Renovated butter, .	8	—
Boston, . . .	April, .	2	Oleomargarine, .	2	—
Lynn,	April, .	9	4 oleomargarine, 5 renovated butter.	9	—
Beverly, . . .	April, .	4	Oleomargarine, .	4	—
Holyoke, . . .	April, .	19	Oleomargarine, .	17 ¹	—
Springfield, .	April, .	2	Oleomargarine, .	2	—
Worcester, . .	April, .	2	Milk,	2	—
Worcester, . .	May, . . .	4	Oleomargarine, .	4	—
Southbridge, .	May, . . .	3	Oleomargarine, .	3	—
Worcester, . .	June, . . .	1	Milk,	1	—
Worcester, . .	August, . .	3	Milk,	3	—
Woburn, . . .	August, . .	1	Milk,	1	—
Worcester, . .	September, .	1	Milk,	1	—
Chicopee, . .	October, . .	2	Milk,	2	—
Salem,	October, . .	6	Milk,	6	—
Wareham, . . .	October, . .	10	4 renovated butter, 6 oleomargarine.	10	—
Fall River, . .	November, .	12	Oleomargarine, .	12	—
New Bedford, .	November, .	6	Oleomargarine, .	6	—
Quincy,	November, .	5	4 oleomargarine, 1 renovated butter.	5	—
Dedham, . . .	November, .	2	Renovated butter, .	2	—
Malden, . . .	November, .	2	Renovated butter, .	2	—
Totals,	202	199	1

¹ Two cases nol-prossed by agreement, defendant paying \$100 fine on another complaint.

NOTE. — The milk cases in Worcester were prosecuted in conjunction with G. L. Berg, in Chicopee with C. W. King, in Salem with J. J. McGrath, and in Woburn with P. T. McDonough; and the renovated butter work in Boston with James O. Jordan. The Bureau is also indebted to the milk inspectors of Worcester, Lowell, Lynn, Holyoke, Chicopee, Springfield, Northampton, Greenfield and Taunton for valuable assistance in oleomargarine and milk work.

The charges in the several cases in court for the year ending Nov. 30, 1907, have been as follows : —

Selling renovated butter in unmarked packages,	79
Selling oleomargarine in imitation of yellow butter,	4
Selling oleomargarine without sign on exposed contents,	7
Selling oleomargarine when butter was asked for,	22
Selling oleomargarine without being registered,	10
Selling oleomargarine without sign in store,	17
Selling oleomargarine in unmarked packages,	12
Selling oleomargarine from wagon without license,	3
Selling oleomargarine from wagon not bearing the words “licensed to sell oleomargarine,”.	7
Selling oleomargarine from restaurant without notice to guests,	23
Selling milk containing formaldehyde,	2
Selling milk containing added water,	14
Selling milk below standard, ¹	2
	202

The following is a list of inspections without samples and the number of samples taken in the years 1903–1907, inclusive : —

YEAR.	Inspections without Samples.	Samples taken.
1903,	4,135	1,395
1904,	4,456	1,157
1905,	4,887	971
1906,	4,985	576
1907,	4,538	1,374
Totals,	23,001	5,473
Averages,	4,600 +	1,096 +

¹ This milk was undoubtedly adulterated, but was entered as above for convenience.

The following is a list of the number of cases entered in court and also the number of convictions secured in the years 1903-1907, inclusive: —

YEAR.	Total Cases.	Convictions.
1903,	289	272
1904,	168	166
1905,	155	155
1906,	113	110
1907,	202	199
Totals,	927	902
Average convictions,	185+	180+

OLEOMARGARINE.

For the first time we are able to report that there are no licenses taken out in this State for the sale of colored oleomargarine, and no case has been discovered during the year where oleomargarine which contained foreign “coloration,” “which caused it to look like yellow butter,” has been sold. There are, however, upon the market several brands of oleomargarine which look like yellow butter, apparently made so by the ingredients which they contain. The wording of our statute seems to many to prohibit the sale of even such goods, but our Superior Court judges rule otherwise. The United States government officials also allow such goods to be made and sold upon the payment of the one-fourth cent tax, as uncolored oleomargarine. So strongly impressed were we that the wording of our statute prohibited the sale of these goods that we took a sample from a prominent wholesale dealer and attempted to make a test case of it for decision by the Supreme Court. The dealer and the manufacturers were agreeable to this, and an agreed statement of fact was drawn up by their counsel and the district attorney of Worcester County; but the presiding judge (Brown), sup-

ported by a previous decision by Judge Bishop, which had been endorsed by several other Superior Court judges, overruled the attempt, and the matter stands just where it did before. If this sort of oleomargarine is to be sold in this State, then it becomes necessary, in order to safeguard the consuming public as well as the dairy interests, that all laws regulating the sale of the same shall be rigidly enforced. This we have done, and 101 violations have been found and the cases have been entered in court during the past year.

The output of oleomargarine in the United States for the year ending June 30, 1907, was greater than at any time since the enactment of the last national oleomargarine law, but is still far below that of the years previous to its enactment. The appended statistics tell the story :—

Under New Law.

	Pounds.
1907,	68,988,850
1906,	53,146,657
1905,	49,880,982
1904,	48,071,480
1903,	71,804,102

Under Old Law.

1902,	126,316,472
1901,	104,943,856
1900,	107,045,028

The licenses issued in this State have also increased, being as follows :—

Retail, uncolored,	229
Wholesale, uncolored,	17
Total,	246

The Boston oleomargarine receipts were 14,581 packages for the year 1907, — a decrease of 19,131 packages from the previous year.

RENOVATED BUTTER.

It is an interesting fact that the sales of renovated butter have apparently fallen off in this State. We are at a loss to account for this, unless it be that the price of renovated butter, which only follows a few cents behind creamery

butter, has been carried at too high a point, those who were obliged to use lower-priced goods using a cheaper grade of butter or oleomargarine instead. There is but one factory license issued in this State. The number of cases in court this year for violation of the renovated butter law was 79. The output of the renovated butter factories of the United States for the year ending June 30, 1907, was 62,919,998 pounds.

BUTTER.

The price of butter has ruled higher than for many years, which was natural, and in conformity with the general advance of prices and the advanced cost of milk production. We believe that the quality of butter upon the market is slowly but surely improving. A more intelligent care of the dairy and more skill in the use of the starter by the butter maker are undoubtedly to a large extent responsible for this. High prices, however, are not conducive to the increase of volume of business, and the Boston supply has fallen considerably below that of 1906. This is apparently largely due to the decrease in export trade, for there is still a balance of 224,464 pounds, representing the increased local consumption, — a figure much below that of last year.

The winter meeting of the Massachusetts Creamery Association was the most enthusiastic and successful held for some years. The quality of the butter exhibited showed improvement. The association is harmonious, intelligent and progressive.

The average price paid per pound of butter fat by the local creameries to patrons, so far as reported, was 30.79+ cents.

The following table shows the average quotation for the best fresh creamery butter in a strictly wholesale way in the Boston market for the last eight years: —

	1907.	1906.	1905.	1904.	1903.	1902.	1901.	1900.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
January, .	30.4	25.2	28.0	22.7	28.0	25.0	25.0	29.5
February, .	31.7	25.2	31.6	24.6	27.0	28.5	25.0	26.0
March, . .	30.2	25.5	28.0	24.1	27.0	29.0	23.0	27.0
April, . .	32.2	22.2	29.1	21.6	27.5	32.0	22.0	21.0
May, . . .	31.4	19.9	23.9	19.9	22.5	25.0	19.5	20.5
June, . . .	24.3	20.2	20.7	18.4	22.75	23.5	20 0	20.5
July, . . .	25.9	21.0	20.6	18.3	20.5	22.5	20.0	20.5
August, . .	26.0	23.8	21.6	19.1	20.0	21.5	21.0	22.0
September, .	29.2	25.6	21.2	20.8	22.0	23.5	22.0	22.5
October, . .	29.9	26.9	22.1	21.5	22.5	24.5	21.5	22.0
November, .	27.1	27.6	23.0	24.1	23.5	27.0	24.0	25.0
December, .	27.5	30.7	23.9	25.7	24.5	28.5	24.5	25.5
Averages, .	28.48	24.48	24.47	21.73	26.23	25.0	22.3	23.5

The Chamber of Commerce figures regarding the butter business in Boston for 1906 and 1907 are as follows : —

	1907.	1906.
	Pounds.	Pounds.
Carried over,	6,851,825	10,189,575
Receipts for January,	2,652,155	3,530,291
Receipts for February,	2,669,598	2,848,633
Receipts for March,	2,731,791	3,367,031
Receipts for April,	3,504,867	2,427,304
Receipts for May,	5,339,155	5,856,768
Receipts for June,	8,559,668	8,603,945
Receipts for July,	10,711,647	9,238,974
Receipts for August,	8,703,341	8,778,101
Receipts for September,	6,778,041	6,688,729
Receipts for October,	5,982,162	6,983,522
Receipts for November,	3,302,617	3,990,993
Receipts for December,	2,654,185	2,838,032
Total supply,	70,441,052	75,341,898
Exports for twelve months, deduct,	18,052	5,146,297
Net supply,	70,423,000	70,195,601
Stocks in storage December 29, deduct,	6,854,760	6,851,825
Consumption for twelve months,	63,568,240	63,343,776
Increase in consumption for 1907,	224,464	

MILK.

The summer price of milk for the Boston market was raised to $28\frac{1}{2}$ cents per can (where the cans were returned clean by the contractors) in the 9-cent or so-called average zone. This was an increase of $2\frac{1}{2}$ cents per can over the price paid in 1906, when it was 26 cents, making the 1907 summer price per quart to producers at railroad station $3.35+$ cents. The winter price was raised to $35\frac{1}{2}$ cents per can (clean cans), which was 6 cents more than was paid in the winter of 1906-07, and 7 cents increase over the summer price of $28\frac{1}{2}$ cents, making the 1907-08 winter price per quart to the producer at railroad station $4.17+$ cents. One-half cent more per can is paid where farmers wash their own cans.

The difference between the net Boston price of milk and the price paid the producer at the railroad station depends upon the distance from Boston, and the discounts from the Boston price are as follows: —

	Cents.
For stations between 17 and 23 miles,	6
For stations between 23 and 36 miles,	7
For stations between 36 and 56 miles,	8
For stations between 56 and 76 miles,	9

This last is called the middle or average zone, although it is undoubtedly inside the average. The zones beyond 76 miles are 20 miles wide, and 1 cent per can additional is deducted in each of these zones as the distance increases. The payment for milk on part of a majority of the larger contractors is governed by the so-called Knapp tables. The object of this system is to secure even production, and still allow a producer to increase or decrease his business by asking at the beginning of the six months for the rating he desires. We have thought best to publish a sample sheet of these tables, that the public may have a better knowledge of the system.¹ One of the contractors pays on a different basis, paying 2 cents per can less for unrestricted production. Another one of the smaller contractors buys milk paying a

¹ See pages 16, 17.

standard price for that between 3.6 and 4 per cent butter fat ; for milk testing above 4 per cent and not above 4.2 per cent, 1 cent extra per can is paid ; for milk testing above 4.2 per cent and not above 4.4 per cent, 2 cents, and above 4.4 per cent, 3 cents. If milk falls below 3.6, the price is decreased relatively ; and if below 3 per cent, is not accepted. Another of the smaller firms buys a part of its supply on the butter-fat basis, paying a premium for all over 4 per cent fat.

The milk in southwestern Massachusetts is shipped to the New York market. The system of payment on part of the Willow Brook Dairy at Sheffield, for example, is the New York exchange price ; at present writing, December, 4 cents per quart, subject to change at any time, but is based upon 4.2 per cent butter fat, $2\frac{1}{2}$ cents being added to or subtracted from the price of a 40-quart can for each one-tenth above or below. In West Stockbridge the F. D. Shove Milk Factory pays by the hundred weight. This winter's price is as follows : October, \$1.80 ; November, December, January and February, \$2 ; and March, \$1.80 per hundred weight.

The retail price in many of the cities and towns in the Commonwealth has been increased approximately 1 cent per quart over that of the winter of 1906. In some cases the consumption fell off temporarily, but it is believed that it is now rising towards normal. The producers supplying milk to such cities and towns have in the main received an advance in price, the price to the producer as a rule having been advanced about $\frac{1}{2}$ cent per quart over that of last winter. This has given the producers near Boston about 5 cents at the farm on the average, those more remote $4\frac{1}{2}$ cents, while in the western part of the State about 4 cents per quart is the prevailing winter price.

Forty-four samples of milk were taken at Barre Plains in November from the firm of C. Brigham Company, just as it was received from the farmers. For results of analyses and refractometer tests, see page 18.

One interesting case of adulterated milk was procured in another locality. A sample was taken from a peddler, and found to be wrong. Upon being notified of the result this

peddler came at once to the office and declared that the milk was as he bought it, and asked as a favor that the dairies from which he was obtaining his supply be sampled. We did so, and on November 27 took a sample of the milk from one dairy, which analyzed 3.2 per cent fat; other solids, 8.24; total, 11.44; refractometer test, 39°. This farm had been delivering to the peddler for a month or more exactly 16 cans per day. On November 29 we saw this herd milked, took samples of known purity from the milk of each cow, and also of the mixed milk of the herd, with the result that the latter analyzed 4 per cent fat; other solids, 9.48; total solids, 13.48; refractometer test, 42.50.° The daily amount furnished the peddler from this dairy promptly fell off. The owner was tried later in the district court, found guilty and fined \$50, from which he appealed. For full results of analyses in this case see pages 18, 19.

For amount of milk received in Boston by railroad see page 19.

Knapp Table, with Ratings, showing the Discounts for Overproduction and Underproduction in the 9-Cent Zone.

TABLE FOR UNDERPRODUCTION.				1907 and 1908.	Minimum and Maximum for the Month.	TABLE FOR OVERPRODUCTION.			
32 cts.	33 cts.	34 cts.	35 cts.	Oct.	35 cts.	34 cts.	33 cts.	32 cts.	
34 cts.	35 cts.	36 cts.	37 cts.	Dec.	37 cts.	36 cts.	35 cts.	34 cts.	
33 cts.	34 cts.	35 cts.	36 cts.	Jan.	36 cts.	35 cts.	34 cts.	33 cts.	
31 cts.	32 cts.	33 cts.	34 cts.	Mar.	34 cts.	33 cts.	32 cts.	31 cts.	

				RATING.					
42-50	51-59	60-66	67-77	2½	78-89	90-96	97-105	106-114	
50-60	61-70	71-79	80-92	3	93-106	107-115	116-125	126-136	
58-71	72-83	84-92	93-108	3½	109-125	126-134	135-146	147-160	
66-81	82-94	95-105	106-123	4	124-142	143-153	154-166	167-182	
75-91	92-106	107-119	120-139	4½	140-160	161-173	174-188	189-205	
83-101	102-118	119-131	132-154	5	155-178	179-191	192-208	209-227	
99-122	123-141	142-158	159-185	6	186-213	214-230	231-249	250-273	
116-142	143-165	166-184	185-216	7	217-249	250-268	269-291	292-318	
133-163	164-189	190-211	212-247	8	248-284	285-306	307-332	333-363	
149-183	184-212	213-237	238-278	9	279-320	321-345	346-374	375-409	
166-203	204-236	237-264	265-309	10	310-355	356-383	384-416	417-454	
182-224	225-260	261-290	291-340	11	341-391	392-421	422-457	458-500	
199-244	245-283	284-317	318-371	12	372-426	427-460	461-499	500-545	
216-265	266-307	308-343	344-402	13	403-462	463-498	499-540	541-590	
232-285	286-331	332-370	371-433	14	434-497	498-536	537-582	583-636	
249-306	307-355	356-396	397-464	15	465-533	534-574	575-623	624-681	
265-325	326-378	379-423	424-495	16	496-568	569-613	614-666	667-727	
282-346	347-402	403-449	450-526	17	527-604	605-651	652-707	708-772	
298-366	367-426	427-476	477-557	18	558-639	640-689	690-749	750-818	
315-387	388-448	449-502	503-588	19	589-675	676-729	730-790	791-863	
332-408	409-473	474-529	530-619	20	620-710	711-766	767-831	832-908	

Knapp Table, with Ratings, etc. — Concluded.

TABLE FOR UNDERPRODUCTION.				1907.	Minimum and Maximum for the Month.	TABLE FOR OVERPRODUCTION.		
34 cts.	35 cts.	36 cts.	37 cts.	Nov.	37 cts.	36 cts.	35 cts.	34 cts.
40-48	49-56	57-64	65-74	RATING. 2½	75-85	86-93	94-101	102-110
49-59	60-68	69-76	77-89	3	90-103	104-111	112-120	121-131
57-68	69-79	80-89	90-104	3½	105-120	121-130	131-141	142-153
64-78	79-91	92-102	103-119	4	120-137	138-148	149-161	162-176
72-88	89-103	104-115	116-134	4½	135-154	155-166	167-181	182-198
81-98	99-114	115-127	128-149	5	150-172	173-185	186-201	202-219
96-118	119-137	138-153	154-179	6	180-206	207-222	223-241	242-264
112-138	139-160	161-178	179-209	7	210-241	242-259	260-281	282-308
128-157	158-183	184-204	205-239	8	240-275	276-296	297-322	323-352
144-177	178-205	206-230	231-269	9	270-309	310-334	335-362	363-396
160-197	198-228	229-255	256-299	10	300-344	345-371	372-402	403-440
177-217	218-251	252-281	282-329	11	330-378	379-408	409-442	443-483
193-236	237-274	275-307	308-359	12	360-412	413-445	446-483	484-527
209-256	257-297	298-332	333-389	13	390-447	448-482	483-523	524-571
225-276	277-320	321-358	359-419	14	420-481	482-519	520-563	564-615
241-296	297-343	344-384	385-449	15	450-515	516-556	557-603	604-659
257-316	317-366	367-409	410-479	16	480-550	551-593	594-643	644-703
273-335	336-389	390-435	436-509	17	510-584	585-630	631-684	685-747
289-355	356-412	413-460	461-539	18	540-619	620-667	668-724	725-791
305-375	376-435	436-486	487-569	19	570-653	654-704	705-764	765-835
321-395	396-458	459-512	513-599	20	600-687	688-741	742-804	805-879

TABLE FOR UNDERPRODUCTION.				1908.	Minimum and Maximum for the Month.	TABLE FOR OVERPRODUCTION.		
31 cts.	32 cts.	33 cts.	34 cts.	Feb.	34 cts.	33 cts.	32 cts.	31 cts.
39-47	48-55	56-62	63-72	RATING. 2½	73-84	85-90	91-98	99-107
46-56	57-66	67-73	74-86	3	87-100	101-107	108-117	118-128
54-66	67-77	78-86	87-101	3½	102-117	118-126	127-237	138-150
61-76	77-88	89-98	99-115	4	116-133	134-143	144-155	156-171
69-85	86-99	100-111	112-130	4½	131-150	151-162	163-176	177-193
77-95	96-110	111-123	124-144	5	145-166	167-179	180-194	195-213
92-114	115-132	133-148	149-173	6	174-199	200-215	216-233	234-256
105-133	134-154	155-172	173-202	7	203-233	234-251	252-272	273-298
123-152	153-175	176-197	198-231	8	232-266	267-208	289-311	312-341
138-171	172-199	200-222	223-260	9	261-299	300-322	323-350	351-384
154-192	193-221	222-247	248-289	10	290-332	333-358	359-387	388-426
169-210	211-243	244-272	273-318	11	319-365	366-394	395-427	428-469
184-229	230-265	266-296	297-347	12	348-399	400-430	431-476	467-512
200-248	249-287	288-321	322-376	13	377-432	433-466	467-505	506-554
215-267	268-309	310-346	347-405	14	406-465	466-502	503-544	545-597
231-286	287-332	333-371	372-434	15	435-498	499-537	538-583	584-639
246-305	306-354	355-395	396-463	16	464-532	533-573	574-622	623-682
261-324	325-377	378-420	421-492	17	493-565	566-608	609-661	662-725
277-344	345-398	399-445	446-521	18	522-598	599-645	646-699	700-767
292-363	364-420	421-470	471-550	19	551-631	632-681	682-738	739-810
307-382	383-443	444-495	496-579	20	580-664	665-716	717-777	778-853

If a dairy outruns the limits of overproduction or underproduction printed in the Table, payment will be made at a price proportional to the production.

Please cancel all previous schedules.

*Samples of Milk for Boston Market, as delivered at Car by Farmers,
taken from C. Brigham Company, at Barre Plains, Mass.*

Sample Number.	Number of Cans.	Number of Cows.	Solids not Fat.	Fat.	Total Solids.	Ash.	Refractometer Reading (Degrees).
1	5	9	8.90	4.80	13.70	.60	41.3
2	6	10	9.20	4.50	13.70	.60	41.3
3	12	18	8.90	3.90	12.80	.56	40.8
4	20	18	8.72	4.10	12.82	.54	40.5
5	10 $\frac{1}{2}$	10	8.84	3.30	12.14	.62	40.6
6	16	23	9.02	4.20	13.28	.62	41.3
7	2	2	8.92	4.60	13.52	.60	40.3
8	5	9	9.10	4.20	13.30	.54	41.3
9	9	11	8.78	4.00	12.78	.62	40.4
10	6	8	8.58	4.00	12.58	.68	40.8
11	7	-	9.24	3.80	13.04	.64	41.3
12	13	14	8.62	3.90	12.52	.62	40.5
13	3	7	8.84	5.10	13.94	.66	41.0
14	11	12	8.90	3.60	12.50	.66	41.0
15	9	12	8.84	4.10	12.94	.60	42.1
16	10	14	8.54	4.00	12.54	.60	40.9
17	3	-	9.10	4.40	13.50	.66	42.1
18	13	16	8.66	3.90	12.56	.62	40.2
19	7	7	8.58	4.00	12.58	.60	42.1
20	16	17	8.56	3.80	12.36	.60	41.9
21	16	16	8.02	4.70	12.72	.64	42.2
22	8	12	9.32	4.20	13.52	.68	42.9
23	5	-	9.14	4.30	13.44	.68	41.9
24	13	25	8.88	4.20	13.08	.60	41.1
25	5	-	9.36	4.60	13.96	.61	42.1
26 ¹	5	5	8.66	3.90	12.56	.60	42.2
27 ¹	2	3	9.80 ¹	3.20 ¹	13.00	.62 ¹	41.2 ¹
28	6	-	9.16	3.80	12.96	.66	41.6
29	5	-	9.04	4.20	13.24	.64	41.8
30	6	-	9.08	3.90	12.98	.62	41.6
31	3	-	9.28	4.50	13.78	.62	42.3
32	3	5	9.16	4.80	13.96	.66	41.8
33	6	6	8.84	4.40	13.24	.60	41.1
34	12	-	8.92	4.40	13.32	.60	41.3
35 ¹	4	10	7.28 ¹	3.70 ¹	10.98	.48 ¹	36.1 ¹
36	7	10	8.82	4.40	13.22	.60	41.9
37	9	11	8.90	4.20	13.10	.60	42.0
38	7	15	8.58	4.20	12.78	.62	41.3
39	8	9	8.90	4.10	13.00	.60	42.2
40 ²	-	-	-	-	-	-	-
41	5	8	8.56	3.60	12.16	.62	41.2
42	6	11	9.12	4.70	13.82	.64	42.7
43	12	-	8.94	4.40	13.34	.64	42.2
44	8	10	8.90	4.90	13.80	.64	41.9
Average of normal samples, .			8.89	4.21	13.10	.62	41.50

*Samples taken from the Mixture of Night's Milk as brought from a
Farm and delivered to a Peddler.*

DATE.	Fat.	Other Solids.	Total.	Water.	Ash.	Refractometer Reading (Degrees).
Nov. 25, 1907,	3.3	7.80	11.10	88.50	.60	39.00
Nov. 27, 1907, ³	3.2	8.24	11.44	88.56	.60	39.00
Nov. 29, 1907, ⁴	4.0	9.48	13.48	86.52	.72	42.50

¹ Abnormal milk.
Sample lost.

³ Witnessed.

⁴ Milk of known purity.

*Milk of Known Purity from Individual Cows of Same Herd as Above,
Nov. 29, 1907.*

Cow.	Quarts.	Fat.	Other olids.	Total.	Water.	Ash.	Refractometer Reading (Degrees).
No. 1, Holstein and Jersey,	4	4.6	10.10	14.70	85.30	.68	45.00
No. 2, Grade Jersey, . .	5	5.7	9.62	15.32	84.68	.80	43.50
No. 3, Grade Devon, . .	3	5.0	10.00	15.00	85.00	.84	43.00
No. 4, Grade Ayrshire, . .	6	4.0	10.06	14.06	85.94	.74	44.20
No. 5, Grade Holstein, . .	7	3.4	8.94	12.34	87.66	.64	42.00
No. 6, Jersey and Durham,	7	4.4	9.04	13.44	86.56	.70	42.00
No. 7, Grade Holstein, . .	6	3.3	8.80	12.10	87.90	.60	41.50
No. 8, Grade Jersey, . .	6	4.6	9.74	14.34	85.66	.78	42.00
No. 9, Grade Holstein, . .	6	3.7	8.50	12.20	87.80	.64	41.00
No. 10, Jersey and Devon, .	5	4.7	10.26	14.96	85.04	.66	42.30
No. 11, Grade Holstein, . .	9	3.3	9.38	12.68	87.32	.70	42.00
*Average,	—	4.24+	9.49+	13.74	85.35+	.70+	42.59+

The following are the figures concerning carred milk, as reported by the various railroads to the Railroad Commissioners.

*Milk brought into Boston by the Different Railroads, December, 1906,
to December, 1907, as reported to the Railroad Commissioners.*

DATE.	Boston & Albany (Quarts).	Boston & Maine (Quarts).	New York, New Haven & Hartford (Quarts).	Total Quarts.
1906.				
December, . .	1,382,567	6,054,571	1,638,630	9,075,768
1907.				
January, . . .	1,386,749	6,211,815	1,586,577	9,185,141
February, . .	1,239,827	5,523,853	1,516,558	8,280,238
March, . . .	1,445,484	6,248,497	1,705,893	9,399,874
April, . . .	1,472,430	6,185,519	1,828,261	9,486,210
May, . . .	1,638,766	6,425,503	2,008,164	10,072,433
June, . . .	1,691,241	6,487,446	2,080,381	10,259,068
July, . . .	1,648,596	6,669,955	1,933,398	10,251,949
August, . . .	1,452,650	5,970,386	1,807,663	9,230,699
September, . .	1,170,560	5,574,826	1,708,373	8,453,759
October, . . .	1,333,905	5,037,707	1,821,845	8,193,457
November, . .	1,117,282	5,087,587	1,788,725	7,993,594 ¹
Totals, . . .	16,980,057	71,477,665 ¹	21,424,468	109,882,190 ¹

¹ The total for the corresponding twelve months, 1906-07, was 114,233,976 quarts.

CREAMERIES AND MILK DEPOTS.

Appended we give a revised list of the principal creameries and milk depots owned and operated by Massachusetts individuals and corporations. There are in this State, in addition to these, a number of distributing plants for creameries owned and operated in other States. For instance, the Maine Creamery Company of Bangor, Me., has offices at 12 Foster Wharf, Boston. The Turner Centre Creamery of Auburn, Me., has distributing houses in Boston, Worcester, Taunton and Lowell, and ships to these points butter, cream, and to one at least skimmed milk.¹ The New England Creamery of Livermore Falls, Me., distributes through a Massachusetts company of the same name in Everett, which also distributes the "Hampden Creamery" goods. The Lyndonville Creamery of Lyndonville, Vt., has a plant at Watertown, from which it distributes milk, cream and butter. J. L. Humphrey, Jr., has four plants, one each in New Bedford, Fall River, Taunton and Brockton, for the distribution of butter and renovated butter from his Iowa creameries. The Armours, Swifts, Hammonds, Morrisises and other large packing houses, all representing western-made goods, distribute quantities of butter and renovated butter from their numerous establishments scattered over the State. Some of these also put out oleomargarine. Besides these, there is a considerable number of creamery companies and so-called creameries which buy their stock of producers in this and other States. These in the aggregate do a large business. Other private dairies or creameries also have town offices, restaurants, etc. The above is difficult of strict classification.

A number of dairies are producing milk and cream under conditions and of a quality which command a price higher than that ruling the general market, and at least two are selling certified milk.

¹ Pasteurized skimmed milk and cream are put together in the proper proportions required for standard milk, in the Boston plant, and the milk thus made is placed upon the market.

Creameries and Milk Depots in Massachusetts.

LOCATION.	Name.	Co-operative or Proprietary.	Superintendent or Manager.
Amherst,	Amherst Creamery,	Proprietary,	F. J. Humphrey, agent.
Amherst,	Fort River,	Proprietary,	E. A. King.
Amherst,	Dairy Farming Course, Massachusetts Agricultural College.	Educational,	Prof. W. P. Brooks, director.
Ashfield,	Ashfield Creamery,	Co-operative,	William Hunter.
Belchertown,	Belchertown Creamery,	Co-operative,	M. G. Ward, president.
Boston, 494 Rutherford Avenue,	H. P. Hood & Sons, ¹	Proprietary,	H. P. Hood & Sons.
Boston, office 1171 Tremont Street,	Alden Bros., ²	Proprietary,	Charles L. Alden.
Boston, Wales Place,	Elm Farm Milk Company,	Proprietary,	James H. Knapp, manager.
Boston, 556 Rutherford Avenue,	D. Whiting & Sons,	Proprietary,	D. Whiting & Sons.
Boston, 388 Rutherford Avenue,	Boston Dairy Company,	Proprietary,	Boston Dairy Company.

¹ H. P. Hood & Sons have branches at 193 Alley Street, Lynn; 252 Bridge Street, Salem; 105 Holmes Street, Dorchester; 425 Main Street, Malden.

² Alden Bros.' Creamery is at 28 Duncan Street.

Creameries and Milk Depots in Massachusetts — Continued.

LOCATION.	Name.	Co-operative or Proprietary.	Superintendent or Manager.
Boylston,	Adelphia Creamery,	Proprietary,	E. M. Laws.
Bridgewater,	Plymouth County Creamery, ¹	Proprietary,	S. Neilson Houlburg.
Brimfield,	- - - - -	Proprietary,	F. N. Lawrence.
Cambridge, 158 Massachusetts Avenue.	C. Brigham Company,	Proprietary,	C. Brigham Company.
Cheshire (P. O., Adams),	Greylock Creamery,	Co-operative,	C. J. Fales, president.
Cummington,	Cummington Creamery,	Co-operative,	M. S. Howes, president.
Easthampton,	Hampton,	Co-operative,	W. H. Wright, treasurer.
Egremont (P. O., North Egremont),	Egremont Creamery,	Co-operative,	H. O. Harrington.
Everett,	Hampden Creamery Company,	Proprietary,	Hampden Creamery Company.
Framingham (P. O., South Framingham).	Echo Farm Company, ¹	Proprietary,	J. A. Turner.
Fitchburg, 26 Cushing Street,	Fitchburg Creamery,	Proprietary,	G. S. Learned.
Gardner,	Boston Dairy Company,	Proprietary,	Boston Dairy Company.

Groton,	.	.	.	Lawrence Creamery,	.	Proprietary,	.	Myron P. Swallow.
Heath,	.	.	.	Cold Spring Creamery,	.	Proprietary,	.	I. W. Stetson & Son.
Hinsdale,	.	.	.	Hinsdale Creamery,	.	Proprietary,	.	Hinsdale Creamery Company.
Lee,	.	.	.	Lenox Creamery,	.	Co-operative,	.	P. A. Agnew, manager.
Leominster,	.	.	.	Leominster Creamery,	.	Proprietary,	.	G. H. Wass, manager.
Marlborough,	.	.	.	Este's Creamery,	.	Proprietary,	.	F. F. Este.
Montague,	.	.	.	Montague Creamery,	.	- ²	.	W. A. Pease, manager.
Monterey,	.	.	.	Berkshire Hills Creamery,	.	Co-operative,	.	Henry Clapp, treasurer.
New Boston,	.	.	.	Berkshire Creamery,	.	Co-operative,	.	N. H. Snow, president.
New Salem (P. O., Millington),	.	.	.	New Salem Co-operative Creamery Company.	.	Co-operative,	.	W. A. Moore.
North Brookfield,	.	.	.	North Brookfield Creamery,	.	Proprietary,	.	H. A. Richardson.
Northfield,	.	.	.	Northfield Creamery,	.	Co-operative,	.	L. R. Smith.
Orange (P. O., North Orange),	.	.	.	North Orange Creamery,	.	Co-operative,	.	C. E. Dunbar.
Sheffield,	.	.	.	Willow Brook Dairy, ³	.	Proprietary,	.	George Patterson.

¹ Cream only.² Leased and operated by Tait Bros., Springfield.³ Receiving station, milk shipped to New York.

Creameries and Milk Depots in Massachusetts — Concluded.

LOCATION.	Name.	Co-operative or Proprietary.	Superintendent or Manager.
Shelburne,	Shelburne,	Co-operative,	Ira Barnard.
Shelburne Falls,	Totman's Creamery,	Proprietary,	T. M. Totman.
Southborough,	Deerfoot Farm,	Proprietary,	S. H. Howes, manager.
Springfield,	Springfield Milk Association,	Co-operative,	F. B. Allen.
Springfield,	Tait Bros.,	Proprietary,	Tait Bros.
Uxbridge,	Farnum Creamery,	Proprietary,	Geo. A. Farnum.
Westfield (P. O., Wyben),	Wyben Springs Creamery,	Co-operative,	C. H. Wolcott.
West Newbury,	West Newbury Creamery,	Co-operative,	R. S. Brown, treasurer.
West Stockbridge,	F. D. Shove Milk Factory, ¹	Proprietary,	C. E. Hardy, superintendent.
Williamsburg,	Williamsburg Creamery,	Co-operative,	E. T. Barrus, president.
Worthington (P. O., Ringville),	Worthington Creamery,	Co-operative,	M. R. Bates, superintendent.
Worcester,	Wachusett Creamery,	Proprietary,	E. H. Thayer & Co.

¹ Milk for New York market.

EXPENSES.

The following is a classified statement of the expenses for the year ending Nov. 30, 1907 : —

Bureau: compensation and travelling expenses,	\$339 31
Agents: compensation,	1,936 50
Agents: travelling expenses and samples purchased,	2,527 84
General agent: travelling and necessary expenses,	493 46
Chemists: analyses, tests, court attendance,	1,120 50
Printing and supplies,	105 92
Educational,	476 47
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Total,	\$7,000 00

P. M. HARWOOD,

General Agent.

Accepted and adopted as the report of the Dairy Bureau.

CARLTON D. RICHARDSON.

JOHN M. DANFORTH.

HENRY E. PAIGE.

